

DOCKET NO: 265070US0PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
MUBARIK M. CHOWDHRY, ET AL. : EXAMINER: LEE, R. A.
SERIAL NO: 10/524,216 :
FILED: FEBRUARY 10, 2005 : GROUP ART UNIT: 1796
FOR: PREPARATION OF AQUEOUS :
POLYMER DISPERSIONS

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Final Rejection dated January 2, 2008 of Claims 1-12, 14 and 16-20. A Notice of Appeal was timely filed on April 2, 2008.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is BASF SE, having an address at 67056 Ludwigshafen, Germany.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals, interferences, or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-12, 14 and 16-20 stand rejected and are herein appealed. Claims 13 and 15 have been canceled. Claim 21 has been indicated as allowable.

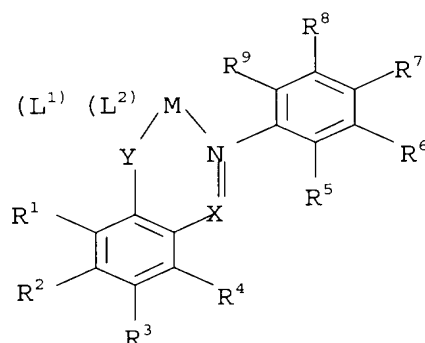
IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

A summary of the claimed subject matter, as claimed in sole independent Claim 1, is mapped out below, with reference to page and line numbers in the specification added in **[bold]** after each element.

The claimed subject matter is a process for preparing an aqueous polymer dispersion, by polymerizing a miniemulsion having an average droplet diameter ≤ 1000 nm of one or more olefins in an aqueous medium in the presence of one or more dispersants, and, optionally, of organic solvents, said process comprising catalyzing the polymerization of said one or more olefins in the presence of one or more metal complex compounds of the formula I: **[page 1, lines 4-9]**



I **[page 1, lines 10-20]**

wherein the substituents and indices have the following meanings:

- M is a transition metal from groups 7 to 10 of the periodic table of the elements; **[page 1, lines 24-25]**
- L^1 denotes phosphanes $(R^{16})_xPH_{3-x}$ or amines $(R^{16})_xNH_{3-x}$ with identical or different radicals R^{16} , ethers $(R^{16})_2O$, H_2O , alcohols $(R^{16})OH$, pyridine, pyridine derivatives of the formula $C_5H_{5-x}(R^{16})_xN$, CO, C_1 - C_{12} alkylnitriles, C_6 - C_{14} aryl nitriles or ethylenically unsaturated double bond systems, x denoting an integer from 0 to 3; **[page 1, lines 26-33]**
- L^2 denotes halide ions, amide ions $(R^{16})_hNH_{2-h}$, h denoting an integer from 0 to 2, and also C_1 - C_6 alkyl anions, allyl anions, benzyl anions or aryl anions, and optionally, L^1 and L^2 may be linked to one another by one or more covalent bonds; **[page 1, lines 35-41]**
- X: is CR or nitrogen atom (N); **[page 1, line 43]**
- R: is hydrogen,
 C_1 - C_6 alkyl groups,
 C_7 - C_{13} aralkyl radicals, or
 C_6 - C_{14} aryl groups, unsubstituted or substituted by one or more C_1 - C_{12} alkyl groups, halogens, mono- or polyhalogenated C_1 - C_{12} alkyl groups, C_1 - C_{12} alkoxy groups, silyloxy groups $OSiR^{11}R^{12}R^{13}$, amino groups $NR^{14}R^{15}$ or C_1 - C_{12} thioether groups; **[page 1, line 45 to page 2, line 5]**
- Y: is OH group, oxygen, sulfur, $N-R^{10}$ or $P-R^{10}$; **[page 2, line 7]**
- N: is nitrogen atom; **[page 2, line 9]**
- R^1 to R^9 : are, independently of one another, hydrogen,
 C_1 - C_{12} alkyl, wherein the alkyl groups may be branched or unbranched,
 C_1 - C_{12} alkyl, substituted one or more times by identical or different

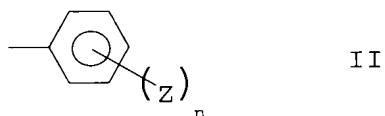
substituents, selected from the group consisting of C₁-C₁₂ alkyl groups,
halogens, C₁-C₁₂ alkoxy groups and C₁-C₁₂ thioether groups,
C₇-C₁₃ aralkyl,
C₃-C₁₂ cycloalkyl,
C₃-C₁₂ cycloalkyl, substituted one or more times by identical or different
substituents, selected from the group consisting of C₁-C₁₂ alkyl groups,
halogens, C₁-C₁₂ alkoxy groups and C₁-C₁₂ thioether groups,
C₆-C₁₄ aryl,
C₆-C₁₄ aryl, substituted by identical or different substituents, selected from one
or more members of the group consisting of C₁-C₁₂ alkyl groups, halogens,
mono- or polyhalogenated C₁-C₁₂ alkyl groups, C₁-C₁₂ alkoxy groups, silyloxy
groups OSiR¹¹R¹²R¹³, amino groups NR¹⁴R¹⁵ and C₁-C₁₂ thioether groups,
C₁-C₁₂ alkoxy groups,
silyloxy groups OSiR¹¹R¹²R¹³,
halogens,
NO₂ groups, or
amino groups NR¹⁴R¹⁵,
and wherein two adjacent radicals R¹ to R⁹, may optionally form with one
another, a saturated or unsaturated 5- to 8-membered ring; **[page 2, lines 11-
39]**

R¹⁰ to R¹⁶ independently of one another, are hydrogen,
C₁-C₂₀ alkyl groups, which may optionally be substituted by O(C₁-C₆ alkyl) or
N(C₁-C₆ alkyl)₂ groups,

C₃-C₁₂ cycloalkyl groups,

C₇-C₁₃ aralkyl radicals or C₆-C₁₄ aryl groups; [page 2, lines 41-46]

and wherein at least one of the radicals R¹ to R⁹ is in the form of a radical of the formula II below:



wherein Z is an electron-withdrawing group, and n is an integer from 1 to 5. [page 3, lines 1-10]

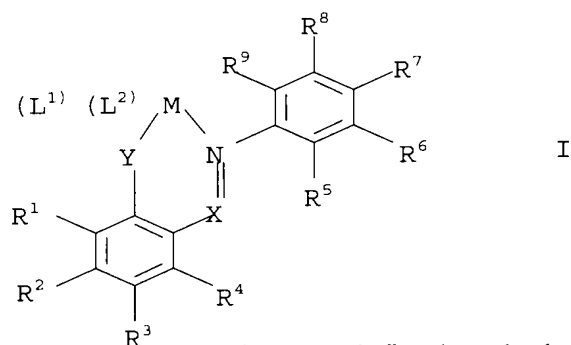
VI. GROUNDS OF REJECTION

Claims 1-12, 14 and 16-20 stand rejected under 35 U.S.C. § 102(e) as anticipated by US 6,800,699 (Schmid et al).

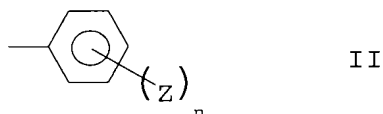
VII. ARGUMENT

Claims 1-12, 14 and 16-20 stand rejected under 35 U.S.C. § 102(e) as anticipated by Schmid et al. The rejection is untenable and should not be sustained.

Claim 1 (and claims dependent thereon), require the use of one or more metal complex compounds of the formula I:

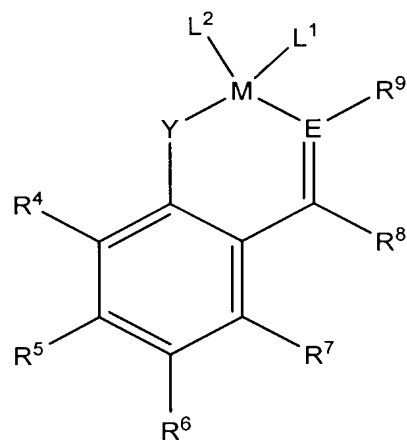


wherein the substituents and indices have meanings, as defined, and wherein at least one of the radicals R^1 to R^9 is in the form of a radical of the formula II below:



wherein Z is an electron-withdrawing group, and n is an integer from 1 to 5.

The Examiner relies on formula Ib of Schmid et al, shown below:



wherein *inter alia*, E is nitrogen and R^9 is hydrogen, C_1 - C_6 alkyl, C_7 - C_{13} aralkyl or C_6 - C_{14} aryl, optionally substituted by one or more C_1 - C_{12} alkyl groups, halogens, singly or

multiply halogenated C₁-C₁₂ alkyl, C₁-C₁₂ alkoxy groups, silyloxy groups OSiR¹¹R¹²R¹³, amino groups NR¹⁴R¹⁵ or C₁-C₁₂ thioether groups,

The Examiner finds that R⁴ to R⁹ in formula Ib may be C₆-C₁₄ aryl, identically or differently substituted by one or more halogens or singly or multiply halogenated C₁-C₁₂ alkyl groups such as trifluoromethyl.

In reply, in order to arrive at formula I of the present claims from the disclosure of formula Ib of Schmid et al, one skilled in the art **must** choose, as R⁹ in formula Ib, a phenyl group as the C₆-C₁₄ aryl group, either unsubstituted or substituted as recited in the present claims for any of R⁵ to R⁹, and then **must** employ a radical of the formula II as recited in the present claims for at least one of the radicals R¹ to R⁹. Formula Ib of Schmid et al, however, is inclusive of significantly more compounds than those embraced by formula I of the present claims. In addition, there is no direction in Schmid et al that would lead one skilled in the art to the compounds of formula I of the present claims.

As stated in *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972):

[R]ejections under 35 U.S.C. 102 are proper only when the claimed subject matter is identically disclosed or described in "the prior art." Thus, for the instant rejection under 35 U.S.C. 102(e) to have been proper, the . . . reference must clearly and unequivocally disclose the claimed [subject matter] or direct those skilled in the art to the [subject matter] without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference. Such picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness which may arise from the similarity of the subject matter which he claims to the prior art, but it has no place in the making of a 102, anticipation rejection.

Schmid et al does not satisfy the *Arkley* test. In addition, it is even questionable that Schmid et al suggests the present invention under 35 U.S.C. § 103(a). Compare *In re Baird*, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994). Nevertheless, at best, Schmid et al is available under 35 U.S.C. § 103(a).

If available under 35 U.S.C. § 103(a), Schmid et al, without more, would be available under 35 U.S.C. § 102(e), based on its US filing date of December 17, 2001, and under 35 U.S.C. § 102(a), based on its pg pub, i.e., US2003/0114570, published June 19, 2003. However, 35 U.S.C. §103(c) provides that, for patent applications filed on or after November 29, 1999, subject matter developed by another that qualifies as prior art under, *inter alia*, §102(e), shall not preclude patentability where the subject matter and the claimed invention were, at the time the invention was made, commonly owned. Applicants' assignee represents that at the time the present invention was made, it and the subject matter developed by Schmid et al were commonly owned. Thus, the disclosure in Schmid et al is not available as prior art under 35 U.S.C. § 102 (e). In addition, a certified English translation of Applicants' German priority application, i.e., DE 10240577.8, filed August 29, 2002 is of record. Applicants respectfully submit that Applicants are entitled to their priority date under 35 U.S.C. § 119. Thus, the disclosure in Schmid et al is not available as prior art under 35 U.S.C. § 102 (a).

In the Final Rejection, the Examiner presumably finds that Applicants are entitled to their priority date under 35 U.S.C. § 119. Nevertheless, the Examiner simply continues to find that Schmid et al is anticipatory.

In the Final Rejection, the Examiner finds that, in effect, the subject matter of the present claims lie within the scope of protection sought in Schmid et al, as evidenced by their being claimed in Claim 1.

In reply, this finding is not dispositive, since the scope of the subject matter in Claim 1 is the same as the scope of the subject matter in the specification, as discussed above. It is well-known that a genus is not necessarily anticipatory of a species or subgenus. Nor does a genus necessarily render *prima facie* obvious a species or a subgenus. In addition, in

explaining what Schmid et al discloses, the Examiner has, in fact, engaged in the kind of picking and choosing prescribed by *Arkley*, as discussed above.

Claim 2

Claim 2 is separately patentable because one skilled in the art would have to pick and choose from Schmid et al's disclosure of R^9 as hydrogen, C_1 - C_6 alkyl, C_7 - C_{13} aralkyl or C_6 - C_{14} aryl, optionally substituted by one or more C_1 - C_{12} alkyl groups, halogens, singly or multiply halogenated C_1 - C_{12} alkyl in order to arrive at R^9 being phenyl substituted by at least one NO_2 , SO_3 , F, C_mF_{2m+1} , where m is an integer from 1 to 10, or a mono- or polyfluorinated aryl.

Claim 3

Claim 3 is separately patentable because one skilled in the art would have to pick and choose from Schmid et al's disclosure of R^9 as hydrogen, C_1 - C_6 alkyl, C_7 - C_{13} aralkyl or C_6 - C_{14} aryl, optionally substituted by one or more C_1 - C_{12} alkyl groups, halogens, singly or multiply halogenated C_1 - C_{12} alkyl in order to arrive at R^9 being phenyl substituted by 2 or 3 CF_3 groups.

For all the above reasons, it is respectfully requested that this rejection be
REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all rejection be REVERSED.

Respectfully submitted,

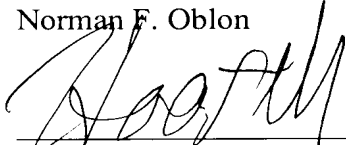
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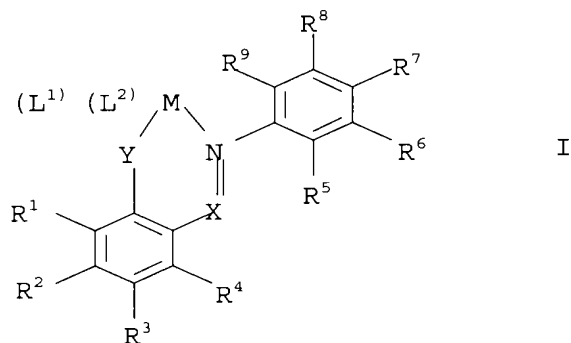
Harris A. Pitlick

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CLAIMS APPENDIX

Claim 1: A process for preparing an aqueous polymer dispersion, by polymerizing a miniemulsion having an average droplet diameter ≤ 1000 nm of one or more olefins in an aqueous medium in the presence of one or more dispersants, and, optionally, of organic solvents, said process comprising catalyzing the polymerization of said one or more olefins in the presence of one or more metal complex compounds of the formula I:



wherein the substituents and indices have the following meanings:

- M is a transition metal from groups 7 to 10 of the periodic table of the elements;
- L¹ denotes phosphanes (R¹⁶)_xPH_{3-x} or amines (R¹⁶)_xNH_{3-x} with identical or different radicals R¹⁶, ethers (R¹⁶)₂O, H₂O, alcohols (R¹⁶)OH, pyridine, pyridine derivatives of the formula C₅H_{5-x}(R¹⁶)_xN, CO, C₁-C₁₂ alkynitriles, C₆-C₁₄ aryl nitriles or ethylenically unsaturated double bond systems, x denoting an integer from 0 to 3;
- L² denotes halide ions, amide ions (R¹⁶)_hNH_{2-h}, h denoting an integer from 0 to 2, and also C₁-C₆ alkyl anions, allyl anions, benzyl anions or aryl anions,

and optionally, L^1 and L^2 may be linked to one another by one or more covalent bonds;

X: is CR or nitrogen atom (N);

R: is hydrogen,

C_1 - C_6 alkyl groups,

C_7 - C_{13} aralkyl radicals, or

C_6 - C_{14} aryl groups, unsubstituted or substituted by one or more C_1 - C_{12} alkyl groups, halogens, mono- or polyhalogenated C_1 - C_{12} alkyl groups, C_1 - C_{12} alkoxy groups, silyloxy groups $OSiR^{11}R^{12}R^{13}$, amino groups $NR^{14}R^{15}$ or C_1 - C_{12} thioether groups;

Y: is OH group, oxygen, sulfur, $N-R^{10}$ or $P-R^{10}$;

N: is nitrogen atom;

R^1 to R^9 : are, independently of one another, hydrogen,

C_1 - C_{12} alkyl, wherein the alkyl groups may be branched or unbranched,

C_1 - C_{12} alkyl, substituted one or more times by identical or different substituents, selected from the group consisting of C_1 - C_{12} alkyl groups, halogens, C_1 - C_{12} alkoxy groups and C_1 - C_{12} thioether groups,

C_7 - C_{13} aralkyl,

C_3 - C_{12} cycloalkyl,

C_3 - C_{12} cycloalkyl, substituted one or more times by identical or different substituents, selected from the group consisting of C_1 - C_{12} alkyl groups, halogens, C_1 - C_{12} alkoxy groups and C_1 - C_{12} thioether groups,

C_6 - C_{14} aryl,

C_6 - C_{14} aryl, substituted by identical or different substituents, selected from one

or more members of the group consisting of C₁-C₁₂ alkyl groups, halogens, mono- or polyhalogenated C₁-C₁₂ alkyl groups, C₁-C₁₂ alkoxy groups, silyloxy groups OSiR¹¹R¹²R¹³, amino groups NR¹⁴R¹⁵ and C₁-C₁₂ thioether groups, C₁-C₁₂ alkoxy groups, silyloxy groups OSiR¹¹R¹²R¹³, halogens, NO₂ groups, or amino groups NR¹⁴R¹⁵, and wherein two adjacent radicals R¹ to R⁹, may optionally form with one another, a saturated or unsaturated 5- to 8-membered ring;

R¹⁰ to R¹⁶ independently of one another, are hydrogen,

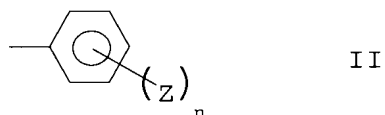
C₁-C₂₀ alkyl groups, which may optionally be substituted by O(C₁-C₆ alkyl) or

N(C₁-C₆ alkyl)₂ groups,

C₃-C₁₂ cycloalkyl groups,

C₇-C₁₃ aralkyl radicals or C₆-C₁₄ aryl groups;

and wherein at least one of the radicals R¹ to R⁹ is in the form of a radical of the formula II below:



wherein Z is an electron-withdrawing group, and n is an integer from 1 to 5.

Claim 2: The process as claimed in claim 1, wherein Z in formula II is selected from one of the following electron-withdrawing radicals:

NO₂, SO₃, F, C_mF_{2m+1}, where m is an integer from 1 to 10, or a mono- or polyfluorinated aryl.

Claim 3: The process as claimed in claim 1, wherein Z in the formula II is CF₃, and n is 2 or 3.

Claim 4: The process as claimed in claim 1, wherein the metal complex compound is used in combination with an activator.

Claim 5: The process as claimed in claim 1, wherein M in the formula I is nickel or palladium.

Claim 6: The process as claimed in claim 1, wherein ethylene is used exclusively as olefin.

Claim 7: The process as claimed in claim 1, wherein at least two olefins are used, selected from the group consisting of ethylene, propylene, 1-butene, 1-hexene, and styrene.

Claim 8: The process as claimed in claim 7, wherein ethylene is used in combination with propylene, 1-butene, 1-hexene or styrene.

Claim 9: The process as claimed in claim 1, wherein anionic, cationic and/or nonionic emulsifiers are used as the one or more dispersants.

Claim 10: The process as claimed in claim 1, wherein aliphatic and aromatic hydrocarbons, fatty alcohols or fatty acids are used as organic solvents.

Claim 11: An aqueous dispersion of a polyolefin or copolymer of two or more olefins, obtained by the process as claimed in claim 1.

Claim 12: An aqueous dispersion of a polyethylene or copolymer of ethylene, obtained by the process as claimed in claim 1.

Claim 14: A method of coating paper, comprising, applying the aqueous dispersion, as claimed in claim 11, to a paper substrate.

Claim 16: A method of sizing a surface, comprising, contacting the aqueous dispersion, as claimed in claim 11, with the surface of a substrate.

Claim 17: A method of treating a textile, leather or a carpet backing, comprising, contacting the aqueous dispersion, as claimed in claim 11, with a substrate.

Claim 18: A method of preparing a molded foam, comprising, molding a composition comprising the aqueous dispersion of claim 11 and one or more additives.

Claim 19: A paint, varnish or adhesive, comprising the aqueous dispersion of claim 11 and one or more additives.

Claim 20: A pharmaceutical composition, comprising the aqueous dispersion of claim 11 and one or more additives.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.